

DESIGN, REVIEW, APPROVAL  
CONSTRUCTION, AND PERMITTING OF SEWER EXTENSIONS

PURPOSE

To set forth the position of the Bureau with respect to the design, review, approval, permitting and construction of the extension of sewer lines (gravity), pump stations, and force mains for municipal, commercial and industrial sewage systems.

BACKGROUND

The Water Pollution Control Section, Bureau of Water Quality, currently processes approximately 300-400 sewer extensions per year in accordance with the provisions of K.S.A. 65-165 and 65-166. These projects range from simple three hundred foot lateral extensions to major interceptor systems combined with large pumping facilities. The size, complexity, and engineering requirements tend to be unique in most cases. This situation gives rise to the need for broad but technically correct procedures for design and review.

The rapidly expanding nature of our cities, subdivisions and industries has necessitated the concurrent expansion of utilities of all types. The expansion has greatly influenced the technical review workload and procedures of the Division of Environment.

The rapid expansion in the use of new materials and construction procedures has prompted a continual need for updating regulatory review and approval requirements. With these items in mind, the Bureau of Water Quality has placed great emphasis on the design and construction of sanitary sewers via the recently published "Minimum Standards of Design for Water Pollution Control Facilities".

Of major concern has been the use or non-use of sewer extensions as a tool to control and implement the management and production of high quality effluents from wastewater treatment plants. Too often in past years, approval has been given without adequate regard for the effect on downstream receiving sewers, pump stations, and the effect on actual treatment plant capabilities. By more carefully matching plant capabilities with projected wastewater input, system managers can make necessary decisions on additional transport and treatment capacity, and the quality and efficiency of treatment plant processes. However, in those instances where local wastewater management is not aware or does not see fit to initiate action, the Bureau of Water Quality may implement restrictions on sewer construction while at the same time modifying existing wastewater permits to reflect the need for greater capacity or higher, more efficient levels of treatment.

The economics involved in the collection and transport of the wastewaters dictates the need to reduce extraneous water from the sewer system. Added costs for maintenance, pumping, and treatment can be drastically reduced through adequate design, construction, and inspection.

In reviewing the above concerns, the Bureau of Water Quality considered the following areas of concern:

1. Implementation of more stringent effluent quality standards for wastewater treatment facilities and the ability of existing treatment plants to meet the NPDES permit requirements.
2. Increased emphasis on the prevention of bypass and surcharge conditions resulting in the discharge of untreated wastewaters to receiving streams.
3. The continuous and varied nature of sewer extension submittals.
4. Recent issuance and adoption of "Minimum Standards of Design for Water Pollution Control Facilities" by the Kansas Department of Health and Environment.
5. Increased emphasis on the reduction of operation and maintenance costs associated with infiltration/inflow resulting from inadequate design, construction, and inspection.
6. Increased emphasis on adequate future planning with respect to interceptor and treatment plant loadings and capabilities.
7. Advancing technology with respect to installation, pipe materials, and cost factors.
8. Operator certification regulations and the ever increasing emphasis on increased collection system operation and maintenance.

The following policy is based in part on K.S.A. 65-165, K.S.A. 65-166, Kansas Department of Health and Environment Regulation 28-16-55, and the establishment of the Kansas Water Quality Management Plan pursuant to 40 CFR 130, 131, and Public Law 92-500.

#### POLICY

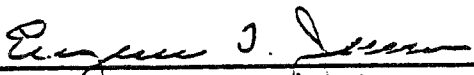
The following policy will be observed by the Bureau of Water Quality with respect to the approval of design, construction, and permitting of gravity or force main sewer extensions of existing wastewater interceptor and collection systems for municipal, commercial, and industrial systems:

1. The Bureau of Water Quality will establish more stringent procedures for the engineering review of sewer extensions. The review procedures will implement the appropriate requirements for sewer extensions found in "Minimum Standards of Design for Water Pollution Control Facilities". This action will be accompanied concurrently by a modified review format, new application and a combined approval and permit form.
2. All engineering consulting firms and city engineers engaged in the design of sanitary sewer extensions are requested to submit a standard set of specifications covering all generalized sanitary sewer extension materials

- and construction procedures prior to March 1, 1978. Design and construction elements unique to each job; i.e., lift stations, siphons, etc., must be covered by addendum to the specifications at the time of submittal of the plans for the project. The standard specifications and its addenda must conform to the Division of Environment's "Minimum Standards of design for Water Pollution Control Facilities". Future revisions to this document shall be forwarded to all consultants, municipalities, etc. At that time, appropriate revisions must be initiated for the standard specifications utilized.
3. As of March 1, 1978, sewer extension submittals which reference previous project specifications will not be accepted unless a revised set of specifications has been furnished to the Water Pollution Control Section. The revised set will be kept on file and utilized as a reference by review engineers.
  4. Approval of any sewer extension project will be contingent not only upon an engineering review to assure conformance with the appropriate standards, but also upon the completeness and accuracy of the sewer extension permit application.
  5. Emphasis will be placed on the construction inspection of the sewer extension. Random inspections by Bureau of Water Quality personnel will be initiated. Inspection of job sites which reveal no inspector present will initiate steps to restrict construction until such time as adequate inspection is provided in accordance with Kansas Department of Health and Environment Regulation 28-16-55.
  6. Only one (1) set of sewer extension plans need be submitted for each project. At least two (2) additional plan and specification cover sheets should be submitted. These items must be stamped by a professional engineer licensed in the State of Kansas or they will be returned without review. These items will be stamped and returned. The submitted set of plans will be utilized for review and microfilming.
  7. Upon completion of the sewer extension project, an as-built set of plans shall be submitted for microfilming if major modifications via addenda or change order have occurred. Written certification, by the licensed engineer or responsible agency in charge of the project, indicating that the extension was constructed in accordance with the plans and specifications must also be furnished to the Division of Environment upon completion of the project.
  8. Careful comparisons will be made of existing transport and treatment systems with proposed extensions to determine the acceptability of the requested extensions. In cases where additional extensions could have potential for disrupting treatment plant efficiency, capacity, and effluent quality, steps will be taken to restrict extension of the system, and appropriate steps will be taken via NPDES and State of Kansas permits to initiate needed engineering and construction.
  9. Large cities, sewer districts, or industries which have in-house engineering capabilities may design and have constructed sewer extensions provided the following conditions are met:

- a. A written agreement between the entity and the Bureau of Water Quality has been consummated.
  - b. Standardized specifications will conform to or be more stringent than the conditions contained in "Minimum Standards for the Design of Water Pollution Control Facilities". The specifications will be submitted to the Water Pollution Control Section for review and approval.
  - c. The concerned entity shall certify to the Bureau of Water Quality that full time qualified inspection will be provided in accordance with Regulation 28-16-55.
  - d. Each entity shall provide a semi-annual summary of all sewer extensions constructed. This should include a listing of lines, sizes, and design flows. An appropriate system map showing the additions must also be provided. Permits for these lines will be issued upon review of the summaries.
10. Sewer extension permits will not be issued if the receiving wastewater treatment plant is in violation of its NPDES or State of Kansas permit.
  11. Sewer extension permits will not be issued if the receiving wastewater treatment plant does not have a certified operator as required by Kansas Department of Health and Environment Regulation 28-16-29.

This policy statement will become effective on the indicated date and will serve in conjunction with the revised application and review formats, as the working policy of the Bureau.

  
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